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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/678,374	10/03/2003	Peter J. Pupalaikis	455610-2600.1	4020
20999	7590	03/28/2006		EXAMINER
				TSAI, CAROL S W
			ART UNIT	PAPER NUMBER
			2857	

DATE MAILED: 03/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.



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W/678374

APPLICATION NO./ CONTROL NO.	FILING DATE	FIRST NAMED INVENTOR / PATENT IN REEXAMINATION	ATTORNEY DOCKET NO.
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EXAMINER

ART UNIT      PAPER

20060320

DATE MAILED:

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner for Patents

The information disclosure statement (IDS) submitted on September 22, 2005 was filed after the mailing date of the Allowance on August 15, 2005. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

The drawings filed on October 28, 2005 are accepted by the Examiner.

*C.S.W.T.*  
CAROL S. W. TSAI  
PRIMARY EXAMINER

<b>Response to Rule 312 Communication</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/678,374	PUPALAIKIS ET AL.	
	Examiner Carol S. Tsai	Art Unit 2857	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

1.  The amendment filed on 28 October 2005 under 37 CFR 1.312 has been considered, and has been:

- a)  entered.
- b)  entered as directed to matters of form not affecting the scope of the invention.
- c)  disapproved because the amendment was filed after the payment of the issue fee.  
Any amendment filed after the date the issue fee is paid must be accompanied by a petition under 37 CFR 1.313(c)(1) and the required fee to withdraw the application from issue.
- d)  disapproved. See explanation below.
- e)  entered in part. See explanation below.

  
**CAROL S.W. TSAI**  
**PRIMARY EXAMINER**

## REPLACEMENT SHEET



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*Approved*  
*(S)*  
3/20/06

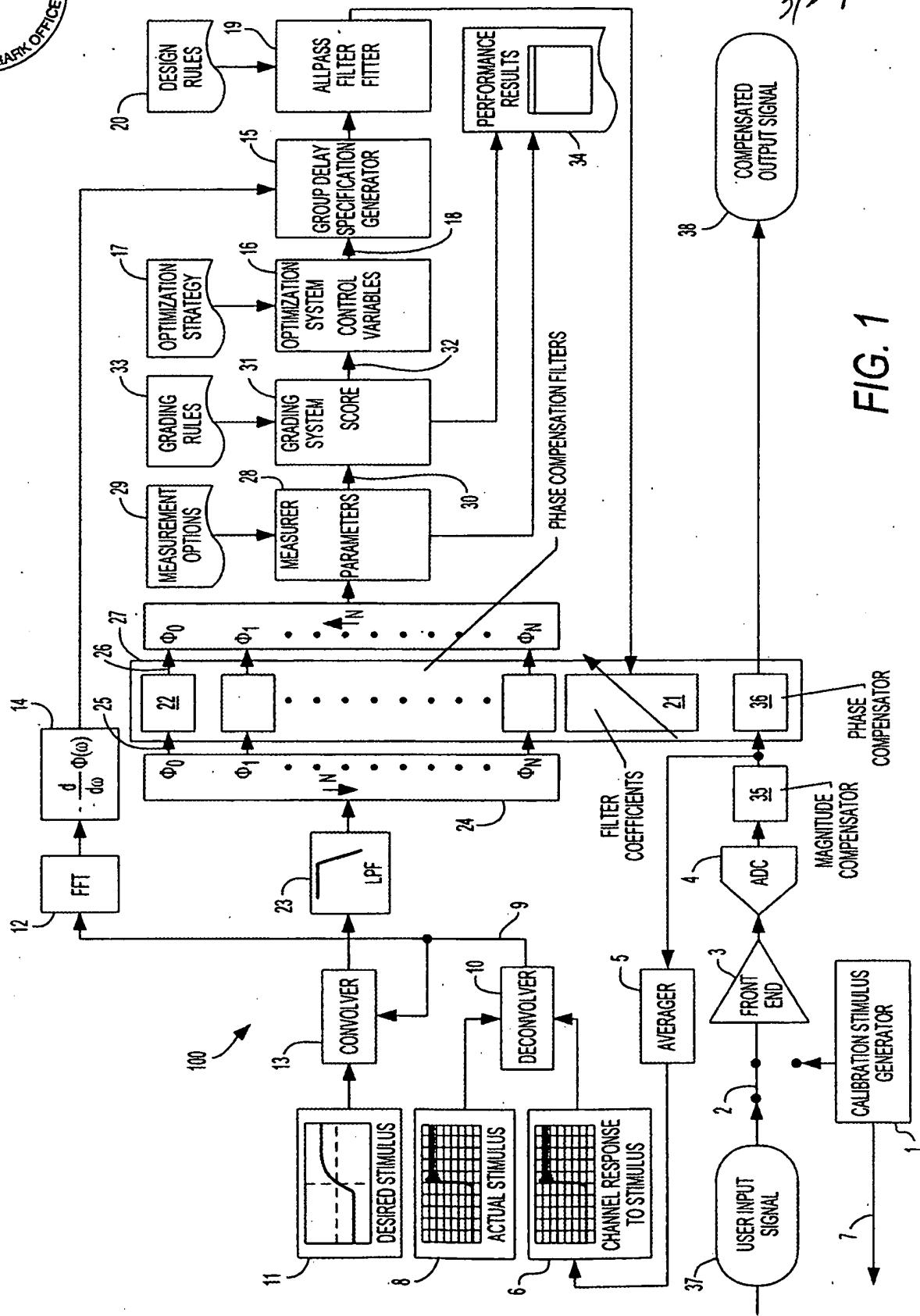


FIG. 1

REPLACEMENT SHEET

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FIG. 2

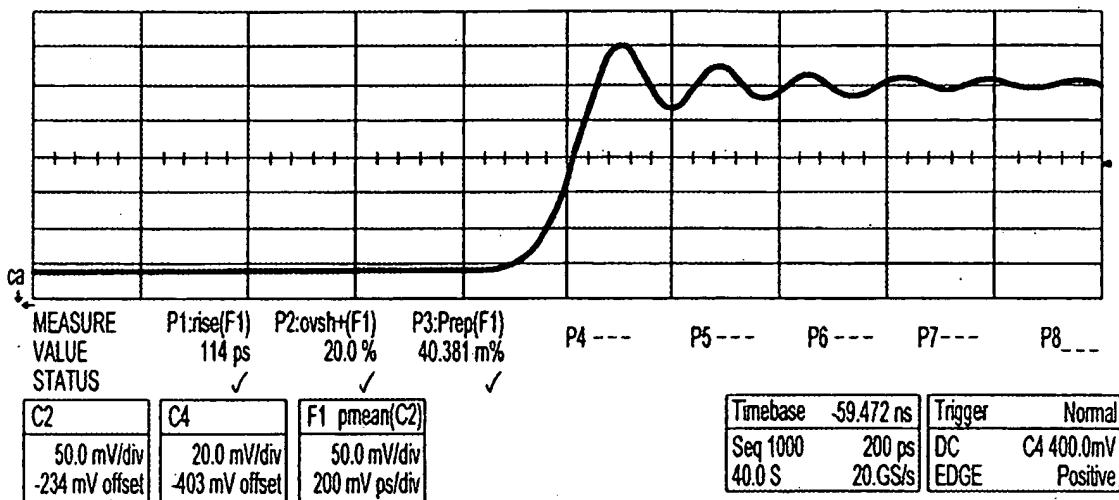


FIG. 3

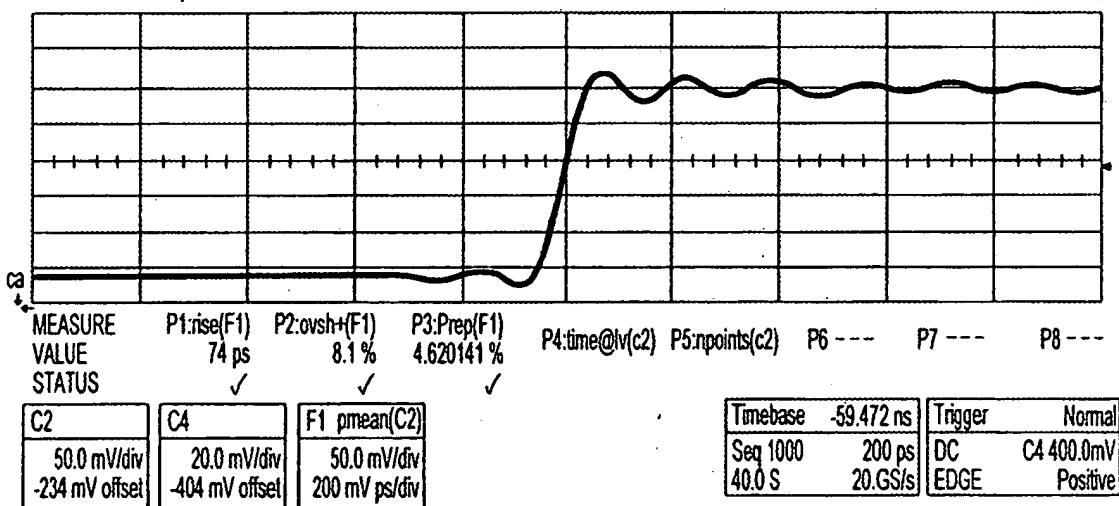
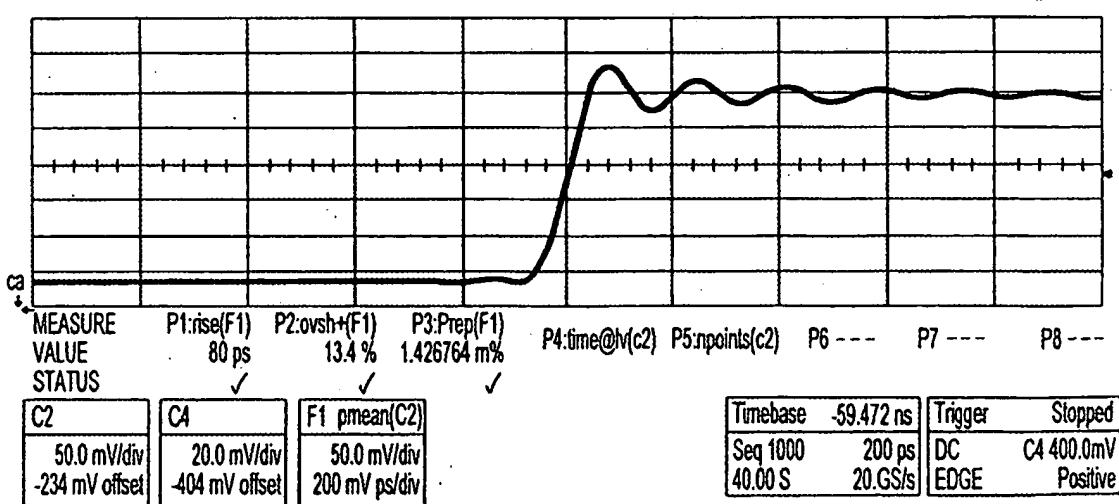


FIG. 4



REPLACEMENT SHEET

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FIG. 5

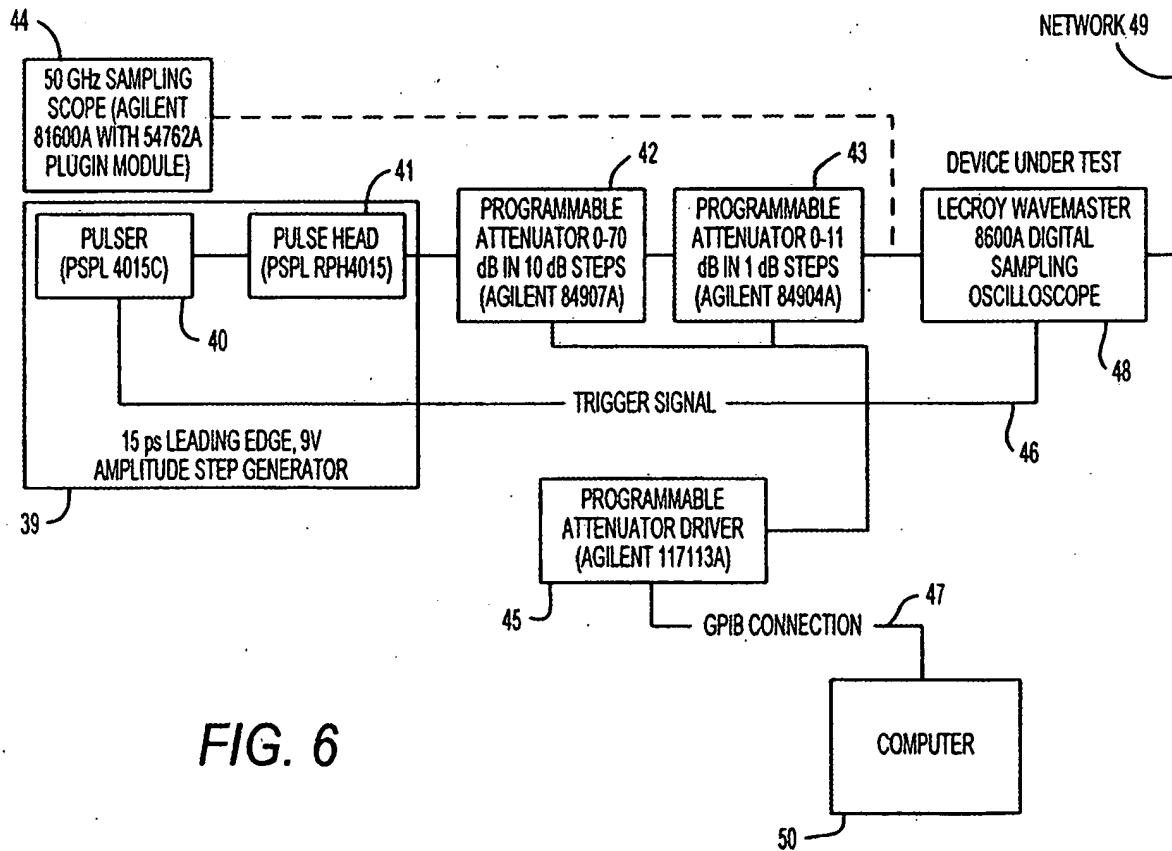
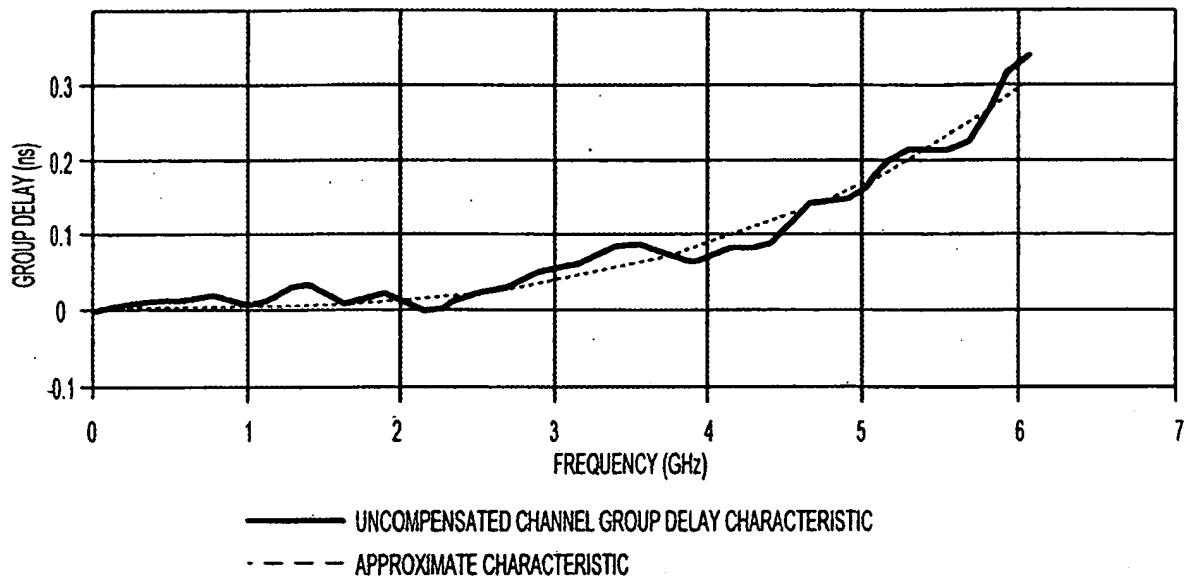


FIG. 6

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FIG. 7

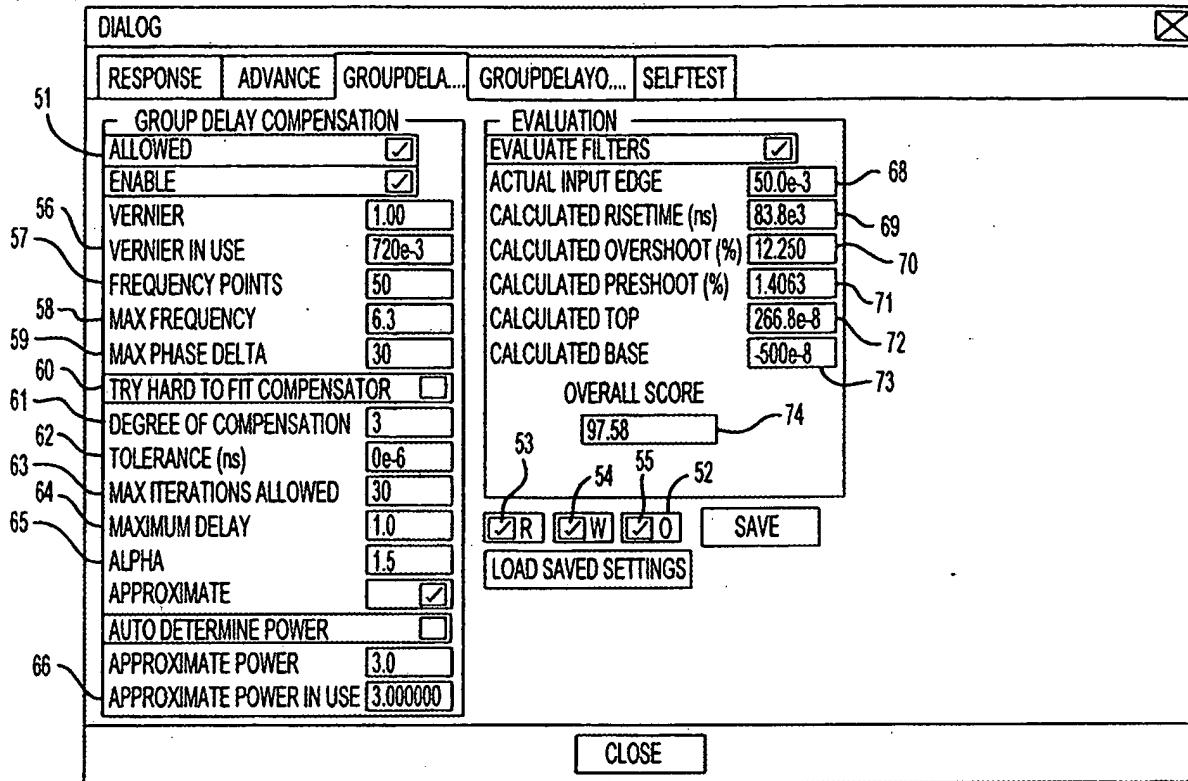
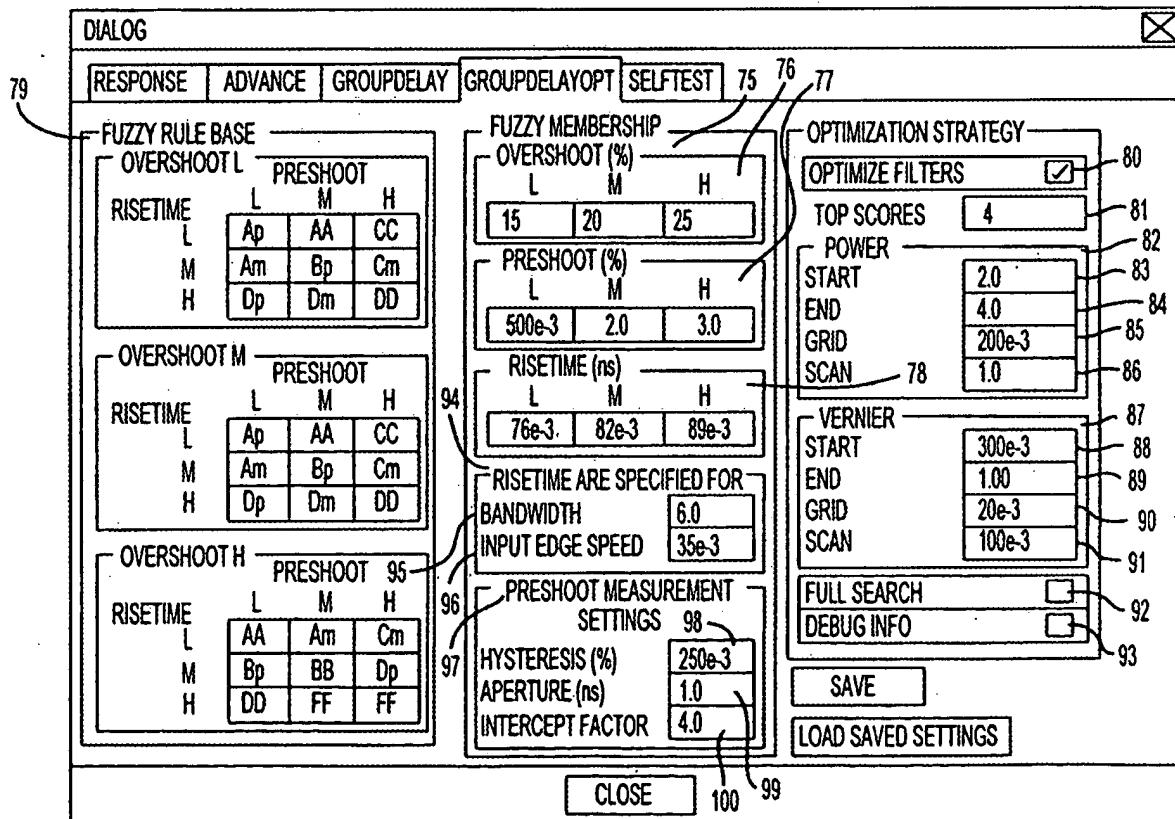


FIG. 8



REPLACEMENT SHEET

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1	for n=0 ... N			FOR EACH RESPONSE POINT	
2	$R_n = GD \text{ comprel}(f_n, g_{i-1}) + gd_{\text{spec}_n}$			CALCULATE A RESIDUAL	
3	for j=0 ... 2S-1			FOR EACH COEFFICIENT	
4	$J_{nj} = \frac{\partial}{\partial(g_{i-1})_j} GD \text{ comprel}(f_n, g_{i-1})$			CALCULATE AN ELEMENT OF THE JACOBIAN MATRIX	
5	$H = J^T \cdot W \cdot J$			CALCULATE THE APPROXIMATE HESSIAN MATRIX	
6	for j=0 ... 2S-1			GENERATE A MATRIX WHOSE DIAGONAL IS IDENTICAL TO THE HESSIAN MATRIX AND IS ZERO ELSEWHERE	
7	$D_{jj} = H_{jj}$				
8	$\Delta P = (H + \lambda \cdot D)^{-1} \cdot J^T \cdot W \cdot R$			CALCULATE THE CHANGE TO THE COEFFICIENT VALUES	
9	$g_i = g_{i-1} + \Delta P$			APPLY THE CHANGE TO THE COEFFICIENTS	
10	$mse_i = \frac{1}{N+1} \sum_n (gd_{\text{spec}_n} + GD \text{ comprel}(f_n, g_{i-1}))^2$			CALCULATE THE NEW MEAN SQUARED ERROR	
11	true	$mse_i > mse_{i-1}$		false	DID THE MEAN SQUARED ERROR INCREASE?
12	$\lambda = \lambda \cdot 10$	FAVOR STEEPEST DESCENT	$\lambda = \frac{\lambda}{10}$	FAVOR NETWONGAUSS CONVERGENCE	

FIG. 9

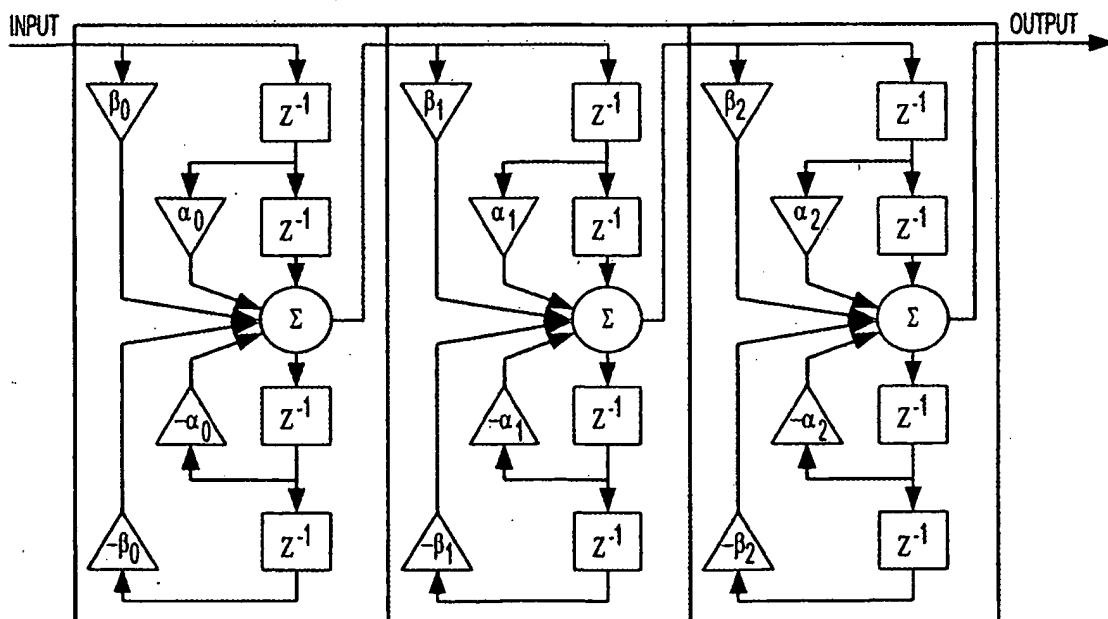


FIG. 10

REPLACEMENT SHEET

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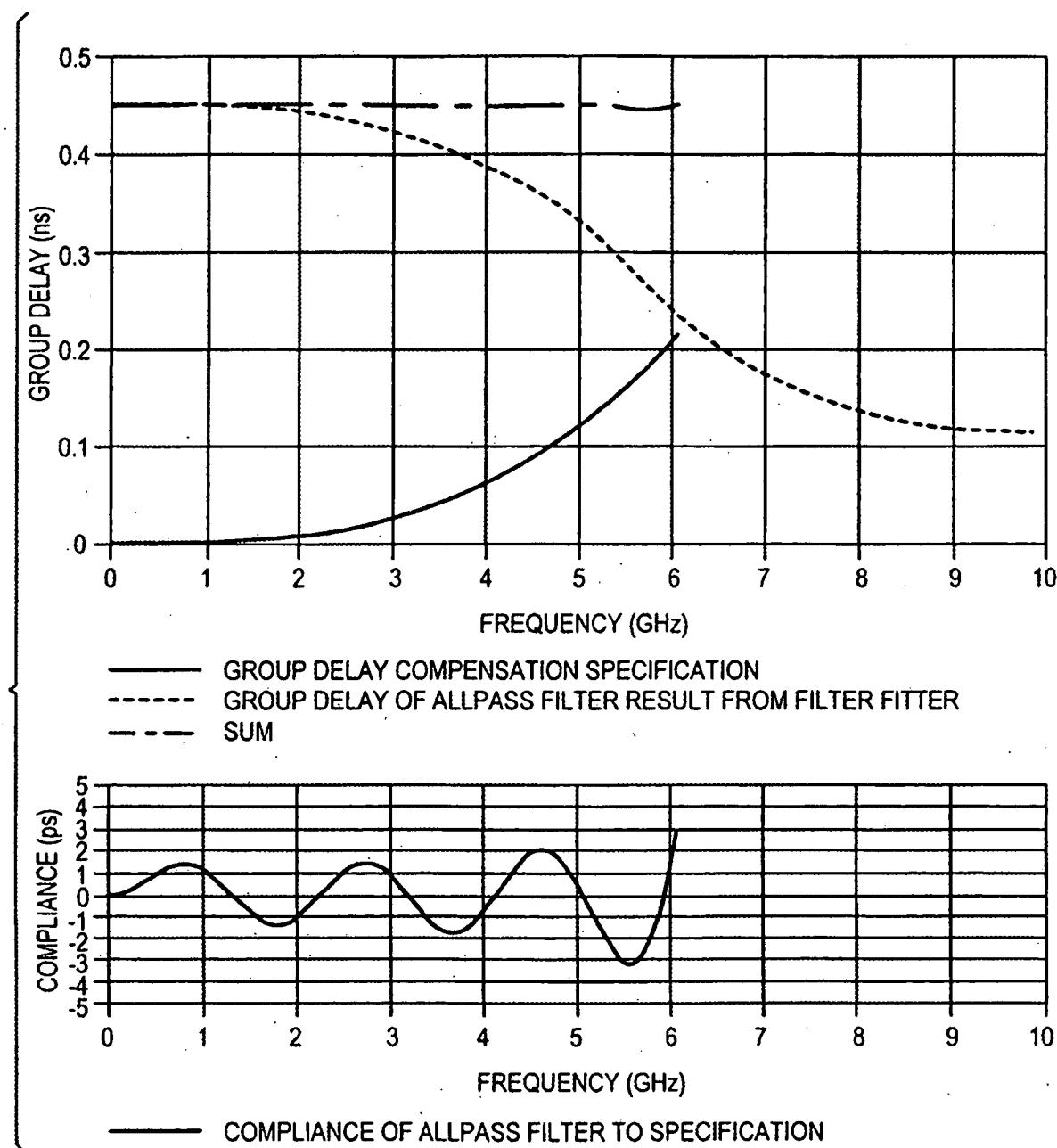


FIG. 11

REPLACEMENT SHEET

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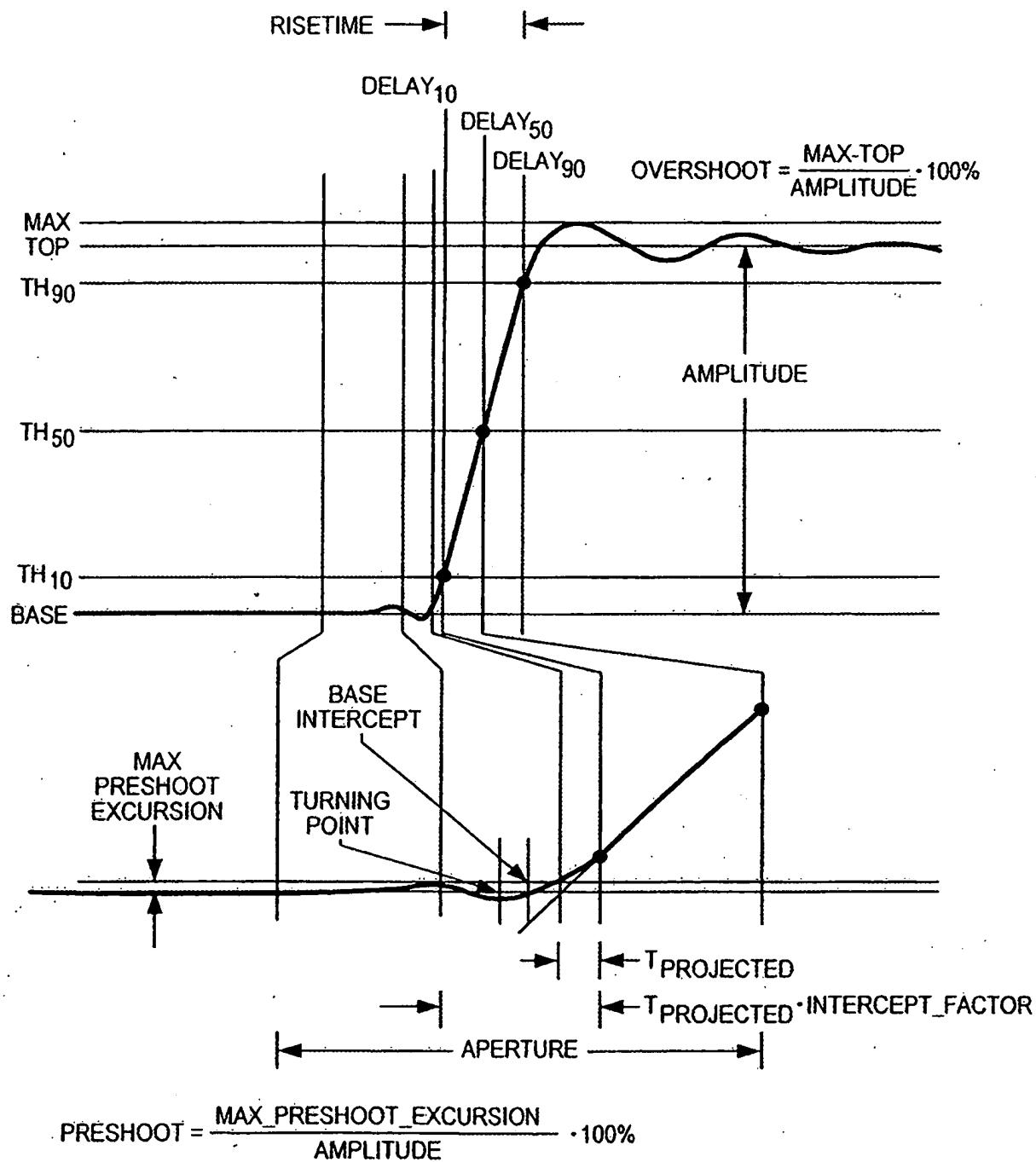


FIG. 12

REPLACEMENT SHEET

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FIG. 13

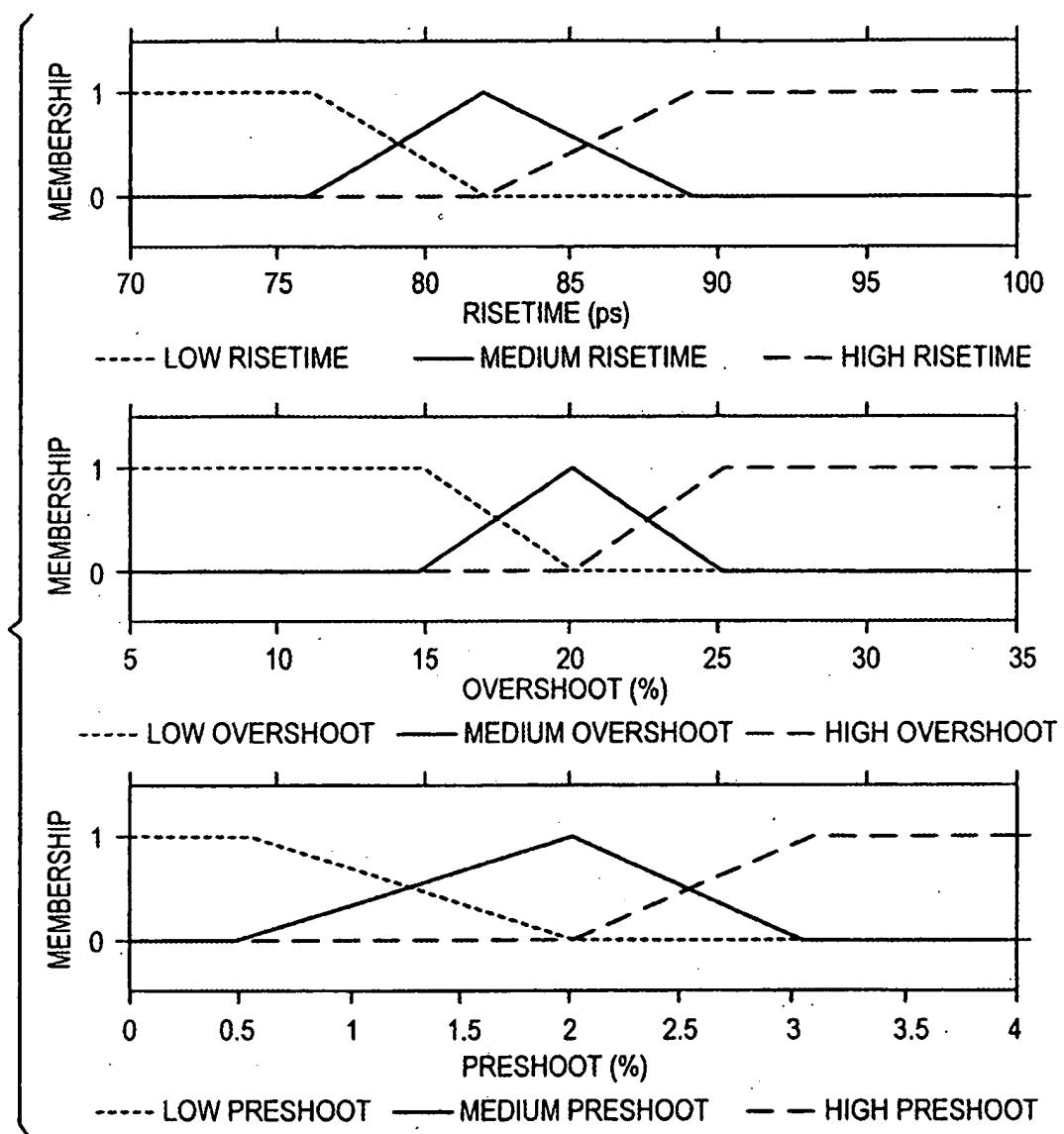
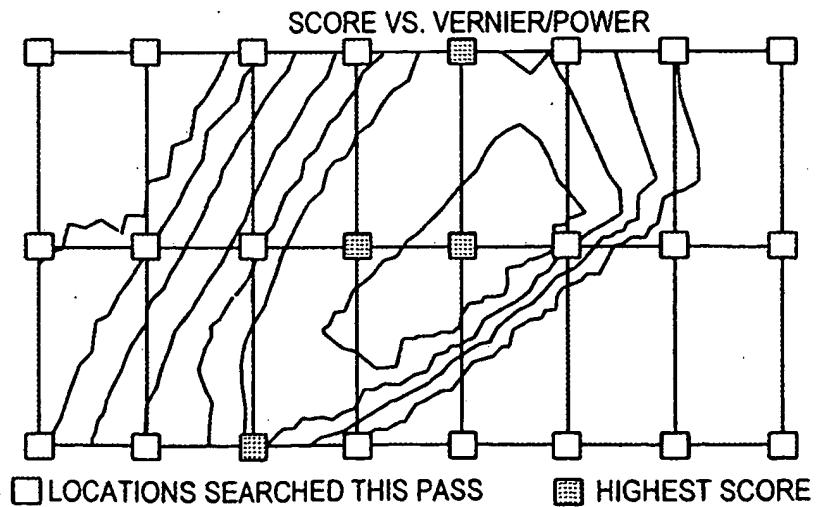


FIG. 14



REPLACEMENT SHEET

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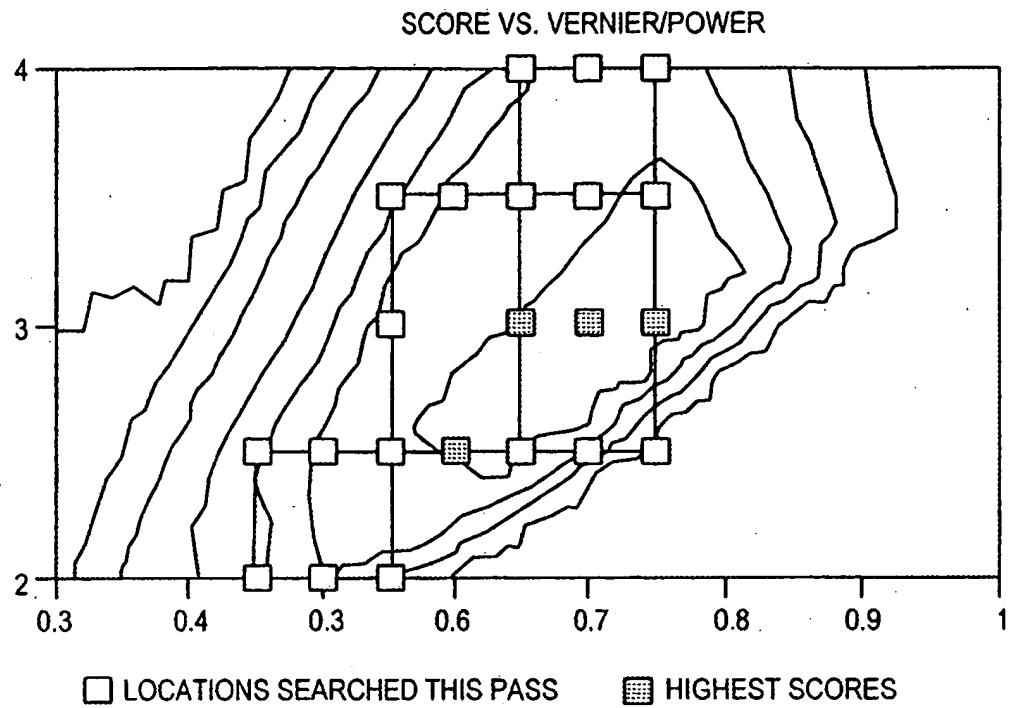


FIG. 15

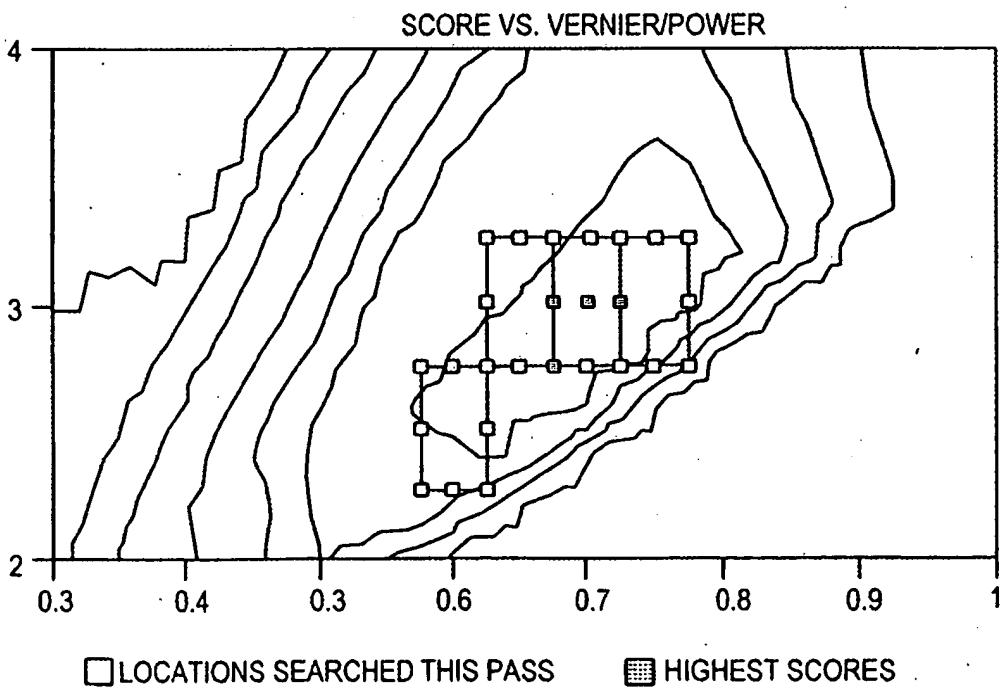


FIG. 16

REPLACEMENT SHEET

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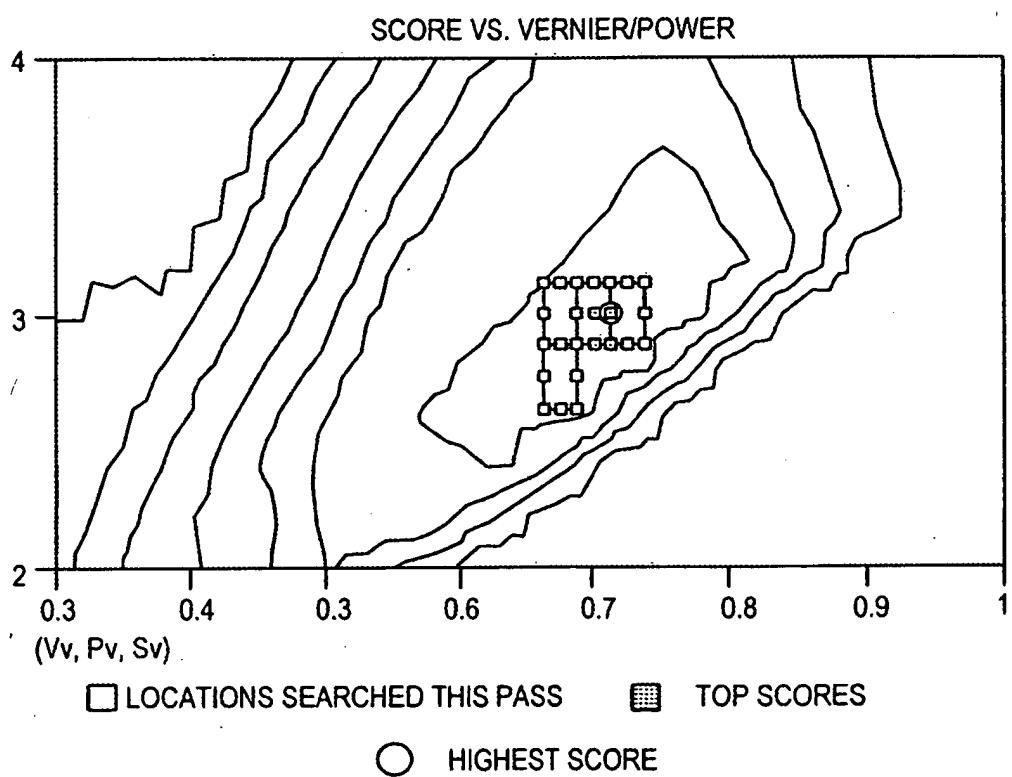


FIG. 17

REPLACEMENT SHEET

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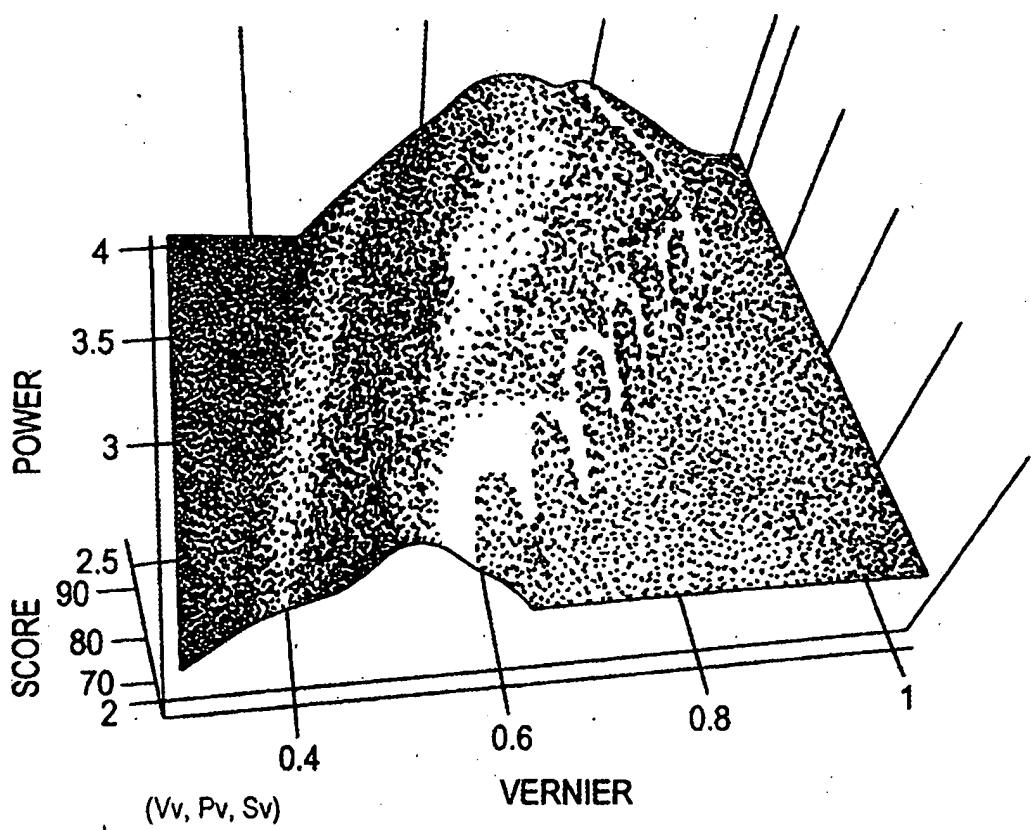
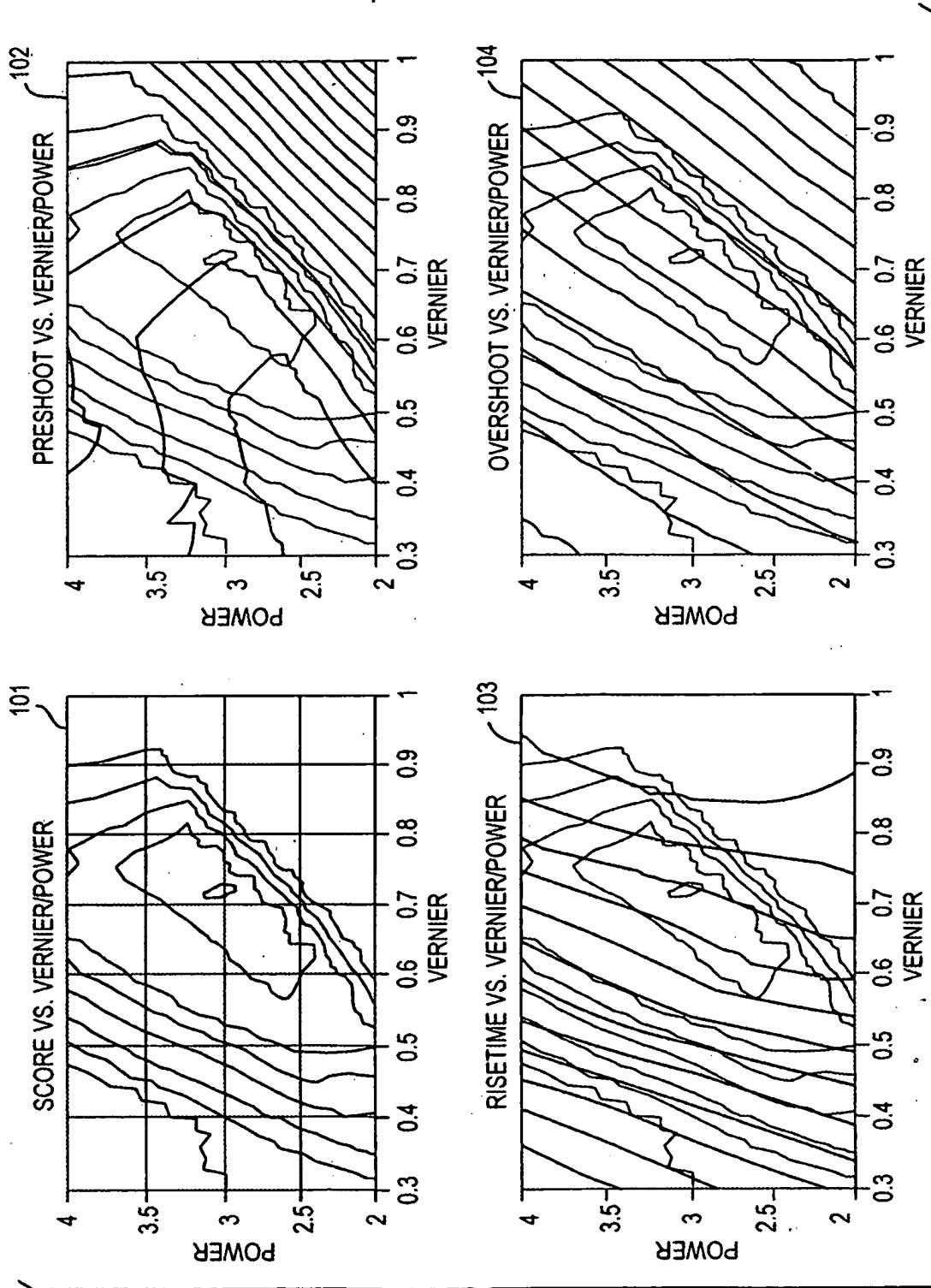


FIG. 18

REPLACEMENT SHEET

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F/G. 19

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FIG. 20

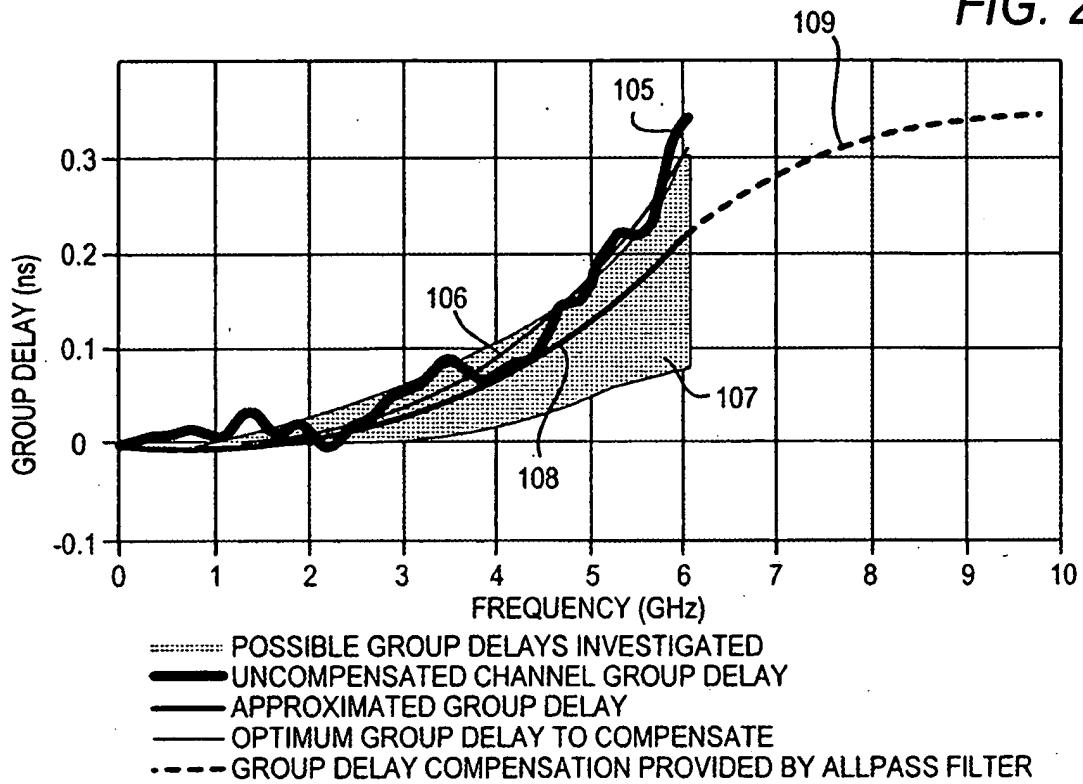


FIG. 21

